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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,759	12/03/2003	Dae Gab Gweon	9665-1	4212
30448	7590	03/22/2005		
AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER LARKIN, DANIEL SEAN	
			ART UNIT 2856	PAPER NUMBER

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EJ

Office Action Summary	Application No. 10/726,759	Applicant(s) GWEON ET AL.	
	Examiner Daniel S. Larkin	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,15-17,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 2, 11-14, 18, 19, and 22-24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03 March 2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Reference designation -- W1 --, as shown in figure 5, does not appear within the written description.

Reference numeral --13-2B --, as shown in Figure 4A, does not appear within the written description.

Reference numerals -- 13g --, -- 23g --, and -- 25g --, as shown in Figure 7, do not appear within the written description regarding Figure 7.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Reference numeral -- 53-1 -- does not appear within Figure 6B as suggested by the written disclosure on page 13, line 12.

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4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because of the following:

Page line 4: The article -- the -- should be inserted prior to the terms "X-axis" and "Y-axis".

Page line 5: The article -- the -- should be inserted prior to the term "Z-axis".

Page line 6: The article -- a -- should be inserted prior to the term "predetermined".

Page lines 7 and 8: The article -- the -- should be inserted prior to the term "X-axis".

Page line 9: The phrase -- , which is located -- should be inserted after the designation "RX2".

Page lines 10 and 11: The article -- the -- should be inserted prior to the term "Y-axis".

Page line 12: The phrase -- , which is located -- should be inserted after the designation "RY2".

Page line 13: The article -- the -- should be inserted prior to the term "Z-axis". Correction is required. See MPEP § 608.01(b).

6. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

7. The disclosure is objected to because of the following informalities:

Page 1, lines 10 and 14: The article -- the -- should be inserted prior to the terms "X-axis", "Y-axis", and "Z-axis".

Page 2, lines 6 and 9: The article -- the -- should be inserted prior to the terms "X-axis" and "Y-axis".

Page 2, lines 7, 10, and 11: The article -- the -- should be inserted prior to the term "Z-axis".

Page 2, line 23: The phrase "Fig.3" should be corrected to read -- Fig. 3 --.

Page 2, line 25: Reference numeral "96" should be corrected to read -- 94 --.

Page 3, line 11: The term "generate" should be corrected to read -- generated --.

Page 3, line 15: The article -- a -- should be inserted prior to the second occurrence of the term "double".

Page 4, lines 9, 10, and 19: The article -- the -- should be inserted prior to the term "X-axis".

Page 4, line 11: The phrase --, which is located -- should be inserted prior to the second occurrence of the term "within".

Page 4, lines 12 and 13: The article -- the -- should be inserted prior to the term "Y-axis".

Page 4, line 13: The phrase --, which is located -- should be inserted prior to the term "within".

Page 4, line 15: The article -- the -- should be inserted prior to the term "Z-axis".

Page 4, line 20: The article -- the -- should be inserted prior to the terms "Y-axis" and "X-axis".

Page 5, lines 4 and 5: The term -- art -- should be inserted after the term "prior".

Page 6, lines 1, 2, and 13: The article -- the -- should be inserted prior to the term "X-axis".

Page 6, lines 3, 6, 11, 22, and 23: The term -- located -- should be inserted prior to the term "within".

Page 6, lines 4, 5, 12, 13, and 19: The article -- the -- should be inserted prior to the term "Y-axis".

Page 6, line 4: The term "second" should be corrected to read -- first --.

Page 6, line 7: The article -- the -- should be inserted prior to the first occurrence of the term "Z-axis".

Page 6, line 9: The term -- area -- should be inserted prior to the designation "RX2".

Page 6, line 10: The phrase "only direction of X-axis" should be corrected to read -- direction of the X-axis only --.

Page 6, line 12: The terms "only" and "direction" should be transposed.

Page 6, line 15: The term "stage" should be corrected to read -- stages -- since more than two stages are described within Figures 4A-4C.

Page 6, line 20: The term -- at -- or -- to -- should be inserted after the term "connected".

Page 7, lines 1, 6, 9, and 17: The article -- the -- should be inserted prior to the term "X-axis".

Page 7, line 2: The first occurrence of the article "a" should be corrected to read -- the -- since the "second X driving part" has been previously recited.

Page 7, line 2: The term -- at -- or -- to -- should be inserted after the term "connected".

Page 7, line 5: The term "forth" should be corrected to read -- fourth --.

Page 7, line 6: Shouldn't the term "opponent" be corrected to read -- opposite --?

Page 7, line 7: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Page 7, line 8: Reference numeral "6-4" should be corrected to read -- 16-4 --; and the second occurrence of the article "the" should be deleted since the slits have not been previously recited.

Page 7, line 10: What structure is the "other end opponent"? This sentence does not make sense.

Page 7, line 10: The phrase "the other end opponent to the" should be replaced with the term -- one --; and the phrase --, which is -- should be inserted after the numeral "13-1".

Page 7, line 11: The phrase "the other end opponent to the" should be replaced with the term -- one --.

Page 7, line 12: The phrase --, which is -- should be inserted after the numeral "13-1".

Page 7, line 14: The term "forms" should be corrected to read -- form --.

Page 7, line 18: Either the article "The" or the term "both" should be deleted.

Page 7, line 21: The article "a" should be corrected to read -- the --.

Page 7, line 23: The third occurrence of the article "the" should be deleted.

Page 7, line 25: Reference numeral "15-A" should be corrected to read -- 15-1A --.

Page 8, line 2: The numeral -- 15-1A -- should be inserted after the term "part".

Page 8, line 5: Shouldn't the term "opponent" be corrected to read -- opposite --?
The examiner does not know what the intended meaning of "opponent" is.

Page 8, line 6: The article "the" prior to the term "slit" should be corrected to read -- a --, since this slit has not been previously disclosed.

Page 8, line 11: Reference numeral "17" should be corrected to read -- 15-1B --.

Page 8, lines 14 and 19: The article -- the -- should be inserted prior to the term "X-axis".

Page 9, lines 4: Both occurrences of the term "line" should be corrected to read -- X-line --.

Page 9, lines 5 and 11: The article -- the -- should be inserted prior to the term "X-axis".

Page 9, lines 19 and 23: The article -- the -- should be inserted prior to the term "Y-axis".

Page 9, line 9: The phrase --, which is located -- should be inserted prior to the term "within".

Page 9, line 10: Reference numeral -- 23 -- should be inserted after the term "element".

Page 9, line 12: The article "the" should be deleted.

Page 9, line 14: The term "opponent" should be corrected to read -- opposite --.

Page 9, line 18: The second occurrence of the numeral "21-1" should be corrected to read -- 21-2 --.

Page 9, line 21: The article "The" should be corrected to read -- the --.

Page 9, line 20: The term "comprises" should be corrected to read -- comprise --; and the numeral "21-1" should be corrected to read -- 22-1 --.

Page 9, line 21: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Page 10, line 1: The first occurrence of the article "the" should be deleted, since the slits have not been previously recited; and reference numeral "26" should be corrected to read -- 25 --.

Page 10, lines 2, 7, 10, 11, and 13: The article -- the -- should be inserted prior to the term "Y-axis".

Page 10, line 2: The third occurrence of the article "the" should be corrected to read -- a --, since slit 27-3 has not been previously recited.

Page 10, line 3: The term "opponent" should be corrected to read -- opposite --.

Page 10, line 4: The phrase -- , which are -- should be inserted prior to the term "connected".

Page 10, line 7: The phrase --, which is located -- should be inserted prior to the term "within".

Page 10, line 11: The letter "y" should be corrected to read -- Y --.

Page 10, line 15: The term "comprises" should be corrected to read -- comprise --.

Page 10, line 17: The term "part" should be corrected to read -- parts --.

Page 10, line 18: The term "symmetrically" should be corrected to read -- symmetrical --; and the article -- the -- should be inserted prior to the term "X-axis".

Page 10, line 19: The term "part" should be corrected to read -- parts --.

Page 11, line 2: The article -- the -- should be inserted prior to the term "Y-axis".

Page 11, line 5: The term "fixing" should be corrected to read -- fixed --.

Page 11, lines 6, 7, 9, 16, 17, and 22: The article -- the -- should be inserted prior to the term "Z-axis".

Page 11, line 9: The first occurrence of the article "the" should be corrected to read -- a --, since the space 31-1 has not been previously recited.

Page 11, line 10: The term "Z-axis" should be corrected to read -- Z-line --.

Page 11, line 19: The term "firs" should be corrected to read -- first --.

Page 11, line 20: The second occurrence of the reference numeral "31-1" should be corrected to read -- 31-2 --.

Page 11, line 23: The term "part" should be corrected to read -- parts --; and the term "includes" should be corrected to read -- include --.

Page 11, line 24: The letter -- Z -- should be inserted prior to the term "double".

Page 12, line 1: The article "the" should be corrected to read -- a --, since this slit 35 has not been previously recited.

Page 12, line 3: Some term, -- to --, -- across --, should be inserted after the term "broadly".

Page 12, line 16: The article -- the -- should be inserted prior to the term "X-axis".

Page 12, line 22: Reference numeral "15-1A" should be corrected to read

-- 15-1 --, since the intermediate rod has been previously identified with the numeral "15-1". The post part of the rod has been previously identified with reference numeral "15-1A".

Page 12, line 25: The term -- model -- should be inserted prior to the term "pressing".

Page 13, line 1: The numeral "1-2g" should be corrected to read -- 16-2g --.

Page 13, line 2: The term -- by -- should be inserted after the term "defined".

Page 13, lines 8, 13, and 14: Reference numeral "15-1A" should be corrected to read -- 15-1 --, since the intermediate rod has been previously identified with the numeral "15-1". The post part of the rod has been previously identified with reference numeral "15-1A".

Page 13, line 17: The term -- model -- should be inserted after the term "second".

Page 14, line 7: The term "to" should be deleted.

Page 14, lines 10, 12, and 13: The article -- the -- should be inserted prior to the term "only"; the term "only" should be deleted; the article -- the -- should be inserted prior to the term "X-axis"; and the term -- only -- should be inserted after the term "X-axis".

Page 14, line 16: The term "only" should be deleted; the article -- the -- should be inserted prior to the term "Y-axis"; and the term -- only -- should be inserted after the term "Y-axis".

Page 14, lines 16-18: Is this sentence redundant since the previous sentence recites that the second model Y area RY2g is shifted in the direction of the Y-axis only?

Page 14, lines 19 and 24: The term "Z-line" should be corrected to read -- Z-axis -- since reference numeral 31g has been previously used to reference the Z-axis motion part, page 13, lines 23 and 24.

Page 14, lines 20 and 24: The article -- the -- should be inserted prior to the term "Z-axis".

Page 14, line 22: The article -- the -- should be inserted prior to the first occurrence of the term "X-axis".

Page 14, line 22: The article -- the -- should be inserted prior to the term "Y-axis".

Page 15, line 5: The term "motion" should be corrected to read -- driving --, since the support receiving part is located within the Z-line driving part 30, as shown in Figure 4c; and the phrase -- as shown in Fig. 4C, -- should be inserted after term "part".

Page 15, line 18: Toward both sides of what are the pressing parts pushed?

Page 15, line 20: The phrase "an interval" should be corrected to read -- a distance --.

Page 15, line 21: The term "widen" should be corrected to read -- widening --.

Page 15, line 22: The term -- third -- should be inserted prior to the third occurrence of the letter "X".

Page 15, line 24: The term -- if -- should be inserted after the term "Meanwhile"; and the numeral "10" should be corrected to read -- 13 --.

Page 15, line 25: The term -- third -- should be inserted prior to the second occurrence of the letter "X".

Page 16, line 3: The term -- third -- should be inserted prior to the occurrence of the letter "X"; and the article -- the -- should be inserted prior to the term "X-axis".

Page 16, lines 8, 11, and 13: The article -- the -- should be inserted prior to the term "Y-axis".

Page 16, line 15: Should reference designation "3C" be corrected to read -- 3 --, -- 4C --, or -- Figs. 3 and 4C --?

Page 16, line 16: The article -- the -- should be inserted prior to the terms "X-axis" and "Y-axis".

Page 16, lines 18 and 21: The term "motion" should be corrected to read -- driving --, since reference element 31 has been previously disclosed as the Z-line driving part, page 11, lines 5, 10, 13, and 15.

Page 16, line 20: Reference numeral "23" should be corrected to read -- 33 --.

Page 16, line 22: The article -- the -- should be inserted prior to the term "Z-axis".

Page 16, line 24: The article "the" prior to the term "mutual" should be deleted.

Page 17, lines 5 and 7: The term "serial" should be corrected to read -- series --.

Page 17, line 9: The phrase "to be generated" should be corrected to read -- to generate --.

Page 17, line 13: The term "another" should be corrected to read -- other --; and is the term "prosecute" the correct term?

Page 17, line 16: The phrase "to be controlled" should be corrected to read -- to control --.

Page 17, line 23: The term "higher" should be corrected to read -- increase --.

Page 17, line 24: The article "a" prior to the term "weight" should be corrected to read -- the --.

Page 18, line 11: Reference numerals "15-1A" and "15-1B" represents portions of the intermediate rod "15-1", rather than the rod themselves.

Page 18, lines 5 and 6: The phrases "scans a sample over the sample" does not make sense.

Page 18, line 7: The phrase "are coincided" should be corrected to read -- coincide with --.

Page 18, lines 8 and 14: The term "measuring" should be corrected to read -- measurement --.

Page 18, lines 10 and 11: The phrases "fixing the sample" and "over the sample" are redundant.

Page 18, line 13: The phrase "are coincided" should be corrected to read -- coincide --.

Page 18, line 17: The term "stage" should be corrected to read -- stages --.

Page 18, line 21: The term "only" should be deleted; the article -- the -- should be inserted prior to the second occurrence of the term "X-axis"; and the term -- only -- should be inserted prior to the term "does".

Page 18, line 22: The term -- with -- should be inserted after the term "interfere"; and the phrase "to the direction of Y-axis" should be deleted.

Page 18, line 25: The term "only" should be deleted; the article -- the -- should be inserted prior to the term "X-axis"; and the term -- only -- should be inserted after the term "X-axis".

Page 19, line 4: The article -- the -- should be inserted prior to the term "Z-axis".

Page 19, lines 6 and 7: The phrase "the amplifying part may be embodied not to be comprised" does not make sense.

Page 19, line 24: The term "stag" should be corrected to read -- stage --.

Page 19, line 25: The article "the" prior to the term "super" should be deleted.

Page 20, line 4: The term -- from -- should be inserted after the term "displaced".

Page 20, line 7: The article -- a -- should be inserted prior to the term "straight" and the term "straight-line" should be corrected to read -- straight line --.

Page 20, line 20: The term "measuring" should be corrected to read -- measurement --.

Claim Objections

8. Claims 1-24 are objected to because of the following informalities:

Re claim 1, claim line 2: The article -- a -- should be inserted prior to the term "predetermined".

Re claim 1, claim lines 4 and 5: The article -- the -- should be inserted prior to the term "X-axis".

Re claim 1, claim line 4: The term -- area -- should be inserted after the term "reference".

Re claim 1, claim line 7: The phrase -- , which is located -- should be inserted prior to the term "within".

Re claim 1, claim lines 7 and 8: The article -- the -- should be inserted prior to the term "Y-axis".

Re claim 1, claim line 8: The designation -- (RX2) should be inserted after the second occurrence of the term "area".

Re claim 1, claim line 9: The phrase -- , which is located -- should be inserted prior to the term "within".

Re claim 1, claim line 10: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 2, claim line 3: The article -- the -- should be inserted prior to the term "Y-axis".

Re claim 2, claim line 4: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Re claim 2, claim lines 5 and 6: The phrase "the second end" lacks antecedent basis.

Re claim 3, claim line 1: The term -- wherein -- should be inserted after the claim dependency.

Re claim 3, claim line 1: The phrase "the first and second driving parts" lacks antecedent basis.

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Re claim 3, claim line 2: The term "comprises" should be corrected to read -- comprise --.

Re claim 3, claim line 3: The phrase "the piezoelectric element" lacks antecedent basis.

Re claim 3, claim line 4: The term "forth" should be corrected to read -- fourth --.

Re claim 3, claim lines 4, 9, and 10: The term "opponent" should be corrected to read -- opposite --.

Re claim 3, claim lines 5 and 6: The article -- the -- should be inserted prior to the term "X-axis".

Re claim 3, claim line 7: The letter -- X -- should be inserted after the term "fourth".

Re claim 3, claim line 10: The phrase -- , which is -- should be inserted prior to the term "connected".

Re claim 3, claim line 11: The phrase -- , which is -- should be inserted prior to the term "connected".

Re claim 4, claim line 2: The term "comprises" should be corrected to read -- comprise --.

Re claim 4, claim line 4: The article "the" prior to the term "both" should be deleted.

Re claim 4, claim lines 5 and 6: The term "part" should be corrected to read -- parts --.

Re claim 4, claim line 7: The term "opponent" should be corrected to read

-- opposite --.

Re claim 4, claim 7: The phrase "the ends of the intermediate rod" lacks antecedent basis.

Re claim 6, claim line 2: The term "part" should be corrected to read -- parts --; and the term "comprises" should be corrected to read -- comprise --.

Re claim 6, claim line 3: The term -- first -- should be inserted prior to the term "pressing".

Re claim 7, claim line 2: The term "part" should be corrected to read -- parts --; and the term "comprises" should be corrected to read -- comprise --.

Re claim 7, claim line 6: The article -- the should be inserted prior to the term "X-axis"; and the space between the letter "X" and the term "-axis" should be deleted.

Re claim 7, claim line 7: The term -- to -- should be inserted after the term "connected".

Re claim 8, claim line 2: The term "spring" should be corrected to read -- springs --; and the term "comprises" should be corrected to read -- comprise --.

Re claim 8, claim line 3: The term "rod" should be corrected to read -- rods --; and the term "comprising" should be corrected to read -- comprise --.

Re claim 9, claim line 2: The term "part" should be corrected to read -- parts --; and the term "comprises" should be corrected to read -- comprise --.

Re claim 9, claim line 6: The article -- the should be inserted prior to the term "X-axis"; and the space between the letter "X" and the term "-axis" should be deleted.

Re claim 9, claim line 7: The term -- to -- should be inserted after the term "connected".

Re claim 10, claim line 2: The term "spring" should be corrected to read -- springs --; and the term "comprises" should be corrected to read -- comprise --.

Re claim 10, claim line 3: The term "rod" should be corrected to read -- rods --; and the term "comprising" should be corrected to read -- comprise --.

Re claim 11, claim line 2: The numeral -- (23) -- should be inserted after the term "element".

Re claim 11, claim line 3: The article -- the -- should be inserted prior to the term "X-axis".

Re claim 11, claim line 4: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Re claim 11, claim line 5: The phrase "the first Y end" lacks antecedent basis; and reference numeral "(26)" should be corrected to read -- (25) --.

Re claim 11, claim line 6: The phrase "the second Y end" lacks antecedent basis; and the term "opponent" should be corrected to read -- opposite --.

Re claim 12, claim line 2: The term "fixing" should be corrected to read -- fixed --.

Re claim 12, claim lines 4, 5, and 7: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 12, claim line 7: The first occurrence of the phrase "the space" lacks antecedent basis.

Re claim 12, claim line 9: The phrase "the Z-axis driving part" lacks antecedent basis.

Re claim 13, claim line 2: The term "fixing" should be corrected to read -- fixed --,

Re claim 13, claim lines 4, 5, and 7: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 13, claim line 7: The first occurrence of the phrase "the space" lacks antecedent basis.

Re claim 13, claim line 9: The phrase "the Z-axis driving part" lacks antecedent basis.

Re claim 14, claim line 2: The numeral -- (23) -- should be inserted after the term "element".

Re claim 14, claim line 3: The article,-- the -- should be inserted prior to the term "X-axis".

Re claim 14, claim line 4: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Re claim 14, claim line 5: The phrase "the first Y end" lacks antecedent basis.

Re claim 14, claim line 6: The phrase "the second Y end" lacks antecedent basis; and the term "opponent" should be corrected to read -- opposite --.

Re claim 15, claim line 2: The term "comprises" should be corrected to read -- comprise --.

Re claim 15, claim line 2: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Re claim 15, claim lines 5 and 9: The article -- the -- should be inserted prior to the term "Y-axis".

Re claim 15, claim line 7 and 8: The phrase "the first and second slits" lack antecedent basis.

Re claim 15, claim line 9: The term "opponent" should be corrected to read -- opposite --.

Re claim 15, claim line 11: The term -- to -- should be inserted after the term "connected"; and the phrase "the third slit" lacks antecedent basis.

Re claim 16, claim line 2: The term "comprises" should be corrected to read -- comprise --.

Re claim 16, claim line 3: The numeral "23" should be corrected to read -- (23) --; and the numeral -- (24) -- should be inserted after the term "rod".

Re claim 16, claim lines 4 and 5: The term "part" should be corrected to read -- parts --.

Re claim 16, claim line 5: The article -- the -- should be inserted prior to the term "X-axis".

Re claim 16, line 7: The term -- formed -- should be inserted after the second occurrence of the term "part" to make clear that the narrowing section 15-1B is formed by the semicircular groove 15-1C.

Re claim 17, claim line 1: The term "X-line" should be corrected to read -- Y-line --.

Re claim 17, claim line 5: The article -- the -- should be inserted prior to the term "Y-axis".

Re claim 17, claim line 6: the term -- to -- should be inserted after the term "connected".

Re claim 18, claim line 2: The term "fixing" should be corrected to read -- fixed --.

Re claim 18, claim lines 4, 5, and 7: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 18, claim line 7: The first occurrence of the phrase "the space" lacks antecedent basis.

Re claim 18, claim line 9: The phrase "the Z-axis driving part" lacks antecedent basis.

Re claim 19, claim line 2: The phrase "the first Z end" lacks antecedent basis.

Re claim 19, claim line 3: The article -- the -- should be inserted prior to both occurrences of the term "Z-axis".

Re claim 19, claim line 4: The numeral -- (33) -- should be inserted after the first occurrence of the term "element".

Re claim 19, claim line 5: The term "part" should be corrected to read -- parts --; the second occurrence of the numeral "31-1" should be corrected to read -- 31-2 --; and the term "includes" should be corrected to read -- include --.

Re claim 19, claim lines 5 and 6: The phrases "the first and second double springs" and "the third and fourth double springs" lack antecedent basis.

Re claim 19, claim 7: The article -- the -- should be inserted prior to the term

"Z-axis".

Re claim 19, claim lines 7 and 8: The phrase "the first and fourth Z double springs" lacks antecedent basis.

Re claim 19, claim line 8: The term "connection" should be corrected to read -- connected --; and the phrase "the fourth slit" lacks antecedent basis.

Re claim 20, claim line 4: The article -- the -- should be inserted prior to the letters "X" and "Y".

Re claim 20, claim line 5: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 21, claim line 2: A -- colon -- should be inserted after the term "comprises".

Re claim 21, claim line 3: The article -- a -- should be inserted prior to the term "predetermined".

Re claim 21, claim lines 5 and 6: The article -- the -- should be inserted prior to the term "X-axis".

Re claim 21, claim line 5: The term -- area -- should be inserted after the term "reference".

Re claim 21, claim line 8: The phrase -- , which is located -- should be inserted prior to the term "within".

Re claim 21, claim lines 8 and 9: The article -- the -- should be inserted prior to the term "Y-axis".

Re claim 21, claim line 9: The designation -- (RX2) should be inserted after the second occurrence of the term "area".

Re claim 21, claim line 10: The phrase -- , which is located -- should be inserted prior to the term "within".

Re claim 21, claim line 11: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 22, claim line 1: The numeral -- (20) -- should be inserted after the term "stage".

Re claim 22, claim line 2: The numeral -- (23) -- should be inserted after the term "element".

Re claim 22, claim line 3: The article -- the -- should be inserted prior to the term "X-axis".

Re claim 22, claim line 4: The term "connected" should be corrected to read -- connecting --; or the term -- to -- should be inserted after the term "connected".

Re claim 22, claim line 5: The phrase "the first Y end" lacks antecedent basis; and reference numeral "(26)" should be corrected to read -- (25) --.

Re claim 22, claim line 6: The phrase "the second Y end" lacks antecedent basis; and the term "opponent" should be corrected to read -- opposite --.

Re claim 23, claim line 1: The numeral -- (30) -- should be inserted after the term "stage"; and a -- colon -- should be inserted after the term "comprises".

Re claim 23, claim line 2: The term "fixing" should be corrected to read -- fixed --.

Re claim 23, claim lines 4, 5, and 8: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 23, claim line 8: The first occurrence of the phrase "the space" lacks antecedent basis.

Re claim 23, claim line 10: The phrase "the Z-axis driving part" lacks antecedent basis.

Re claim 24, claim line 1: The numeral -- (30) -- should be inserted after the term "stage"; and a -- colon -- should be inserted after the term "comprises".

Re claim 24, claim line 2: The term "fixing" should be corrected to read -- fixed --.

Re claim 24, claim lines 4, 5, and 8: The article -- the -- should be inserted prior to the term "Z-axis".

Re claim 24, claim line 8: The first occurrence of the phrase "the space" lacks antecedent basis.

Re claim 24, claim line 10: The phrase "the Z-axis driving part" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 3-10 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 3, claim line 4: The phrase "opposite side of the first X end" does not make sense. The prior recitation of the first X end fails to recite the first X end having sides. It is not clear what applicants are intending to claim.

Re claim 3, claim lines 9 and 10: The phrase "the other end opposite to the end of the first X-line motion part" does not make sense. The prior recitation of the first X-line motion part fails to recite the part having ends. It is not clear what applicants are intending to claim.

Re claim 3, claim lines 10 and 11: The phrase "the other end opposite to the end of the second X-line motion part" does not make sense. The prior recitation of the first X-line motion part fails to recite the part having ends. It is not clear what applicants are intending to claim.

Re claim 4, claim lines 7 and 8: The phrase "the other ends opposite to the ends of the intermediate rod" does not make sense. The prior recitation of the pressing parts and the intermediate rod fail to recite the parts or the rods as having ends. Additionally, "to the other ends" of what is not clear as to whether the slits connect to the pressing parts or to the rod.

Re claim 15, claim lines 10 and 11: The phrase "the other ends opposite to the ends of the first and second Y-line motion parts connected to the first and second amplifying parts" does not make sense. The prior recitation of the first and second Y-

line motion parts fails to recite the parts as having ends. It is not clear what applicants are intending to claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

12. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by US 6,467,761 (Amatucci et al.).

With respect to the limitations of claim 1, the reference to Amatucci et al. discloses a positioning stage capable of 3-axis straight-line motion, wherein the stage comprises: a bottom plate/outer support structure (206) having a predetermined area and thickness; a X-axis stage fixed within a reference area of the support structure (206) for moving a stage (201) in the X-axis direction only to a first X area, which is positioned away from the reference area; and a Y-axis stage which is located within the area of the X-axis stage for moving the stage (201) in the Y-axis direction only to a first Y area, which is positioned away from the area in which the Y-axis stage is located. Figure 17 describes the placement of an actuator (1701) on the moving stage (1702) to impart an additional degree of freedom to the positioning stage. The disclosure, col. 12, lines 24-31, discloses that the actuator (1701) raises and lowers, i.e. moves in the Z-axis direction, an object/sample which is placed on the positioning stage.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,298,975 (Khoury et al.) in view of US 6,467,761 (Amatucci et al.).

With respect to the limitations of claims 20 and 21, the reference to Khoury et al. discloses a combined scanning force microscope and optical metrology tool, whereby an atom microscope comprising a cantilever (16) a probe tip (14), and a laser (46) is utilized to measure a sample (12) positioned on an X-Y piezoelectric stage (64) which is supported by a set of three separate actuators for fine Z motion of the stage. An additional X-axis sub-stage (68) and a Y-axis sub stage (70) are provided for coarse positioning. The reference to fails to disclose a 3-axis straight-line motion stage. The reference to Amatucci et al. discloses a positioning stage capable of 3-axis straight-line motion, wherein the stage comprises: a bottom plate/outer support structure (206) having a predetermined area and thickness; a X-axis stage fixed within a reference area of the support structure (206) for moving a stage (201) in the X-axis direction only to a first X area, which is positioned away from the reference area; and a Y-axis stage which is located within the area of the X-axis stage for moving the stage (201) in the Y-axis direction only to a first Y area, which is positioned away from the area in which the Y-axis stage is located. Figure 17 describes the placement of an actuator (1701) on the

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moving stage (1702) to impart an additional degree of freedom to the positioning stage. The disclosure, col. 12, lines 24-31, discloses that the actuator (1701) raises and lowers, i.e. moves in the Z-axis direction, an object/sample which is placed on the positioning stage. Providing a 3-axis straight-line motion stage would have been obvious to one of ordinary skill in the art as a means of insuring precise sample positioning such that movement of one stage does not cause the sample to move in a second, different direction, thus minimizing scanning errors due to the sample being out of place.

Allowable Subject Matter

15. Claims 2, 11-14, 18, 19, and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 3-10 and 15-17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

The prior art to US 6,346,710 (Ue) discloses a stage apparatus comprising a fixed base, a movable table, a pair of elastic portions arranged in both sides of the table along the X-axis; a pair of elastic portions arranged in both sides of the table along the Y-axis; and two pairs of actuators for moving the table in the Y-axis direction and the X-axis direction.

The prior art to JP 5-232265 (Izumi et al.) discloses a positioning apparatus comprising a surface plate having an object to be driven located within the plate. Separate piezoelectric elements (3, 4, 5) are utilized to move the object in the X, Y, and Z-axis directions.

The prior art to US 6,229,607 (Shirai et al.) discloses a fine movement mechanism unit and scanning probe microscope having an X fine movement mechanism; a Y fine movement mechanism, and a Z fine movement mechanism.

The prior art to US 6,310,342 (Braunstein et al.) discloses an optical microscope stage for a scanning probe microscope.


18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Larkin
AU 2856
10 March 2005



DANIEL S. LARKIN
PRIMARY EXAMINER